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ABSTRACT

"Preparing for Tomorrow's World" (PTW) is an interdisciplinary, future-oriented program incorporating information from the sciences/social sciences and addressing societal concerns which interface science/technology/society. "Beacon City," one of a series of program modules, is an urban land use simulation. Land use planning techniques patterned after the work of Ian McHarg and strategies/techniques developed in the emerging field of futuristics (such as futures forecasting) are integral parts of the module. Like other PTW modules, Beacon City promotes responsible citizenry with increased abilities in critical thinking, problem solving, social/ethical reasoning, and decision-making. Provided in this teaching guide is an overview of the module (which includes a description of the simulation, objectives, and discussion of strategies for promoting student development) and a discussion of the Socio-Scientific Reasoning Model (theoretical basis of the PTW program). Instructional strategies for module activities are also provided. These include suggestions for using the filmstrip/audio-cassette recording (complete script provided), a game, role playing cards, data files, and student worksheets. The module is recommended for such high school courses/areas as social studies, history, geography, urban studies, environmental planning, and earth science. (JN)

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PREPARING FOR TOMORROW'S WORLD

BEACON CITY

An Urban Land Use Simulation

Teacher's Guide

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**Preparing for Tomorrow's World
An Interdisciplinary Curriculum Program**

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Future New Jersey: Public Issues and
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Beacon City: An Urban Land-Use Simulation
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PREPARING FOR TOMORROW'S WORLD

BEACON CITY
An Urban Land Use Simulation

Teacher's Guide

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PREFACE

We live in an exciting, rapidly changing, and challenging world—a world highly dependent upon science and technology. Our world is changing so rapidly that we sometimes fail to recognize that much of what we today take for granted as common, everyday occurrences existed only in the imaginations of people just a few short years ago. Advances in science and technology have brought many dreams to fruition. Long before today's school children become senior citizens, much of today's "science fiction" will, in fact, become reality. Recall just a few accomplishments which not long ago were viewed as idle dreams:

- *New biomedical advances have made it possible to replace defective hearts, kidneys and other organs.*
- *The first air flight at Kitty Hawk lasted only a few seconds. Now, a little over half a century later space ships travel thousands of miles an hour to explore distant planets.*
- *Nuclear technology—of interest a few short years ago because of its destructive potential—could provide humankind with almost limitless supplies of energy for peace-time needs.*
- *Computer technology has made it possible to solve in seconds problems which only a decade ago would require many human lifetimes.*
- *Science and technology have brought us to the brink of controlling weather, earthquakes and other natural phenomena.*

Moreover, the changes which we have been experiencing and to which we have become accustomed are occurring at an increasingly rapid rate. Changes, most futurists forecast, will continue and, in fact, even accelerate as we move into the 21st Century and beyond. But, as Barry Commoner has stated, "There is no such thing as a free lunch." These great advances will not be achieved without a high price. We are now beginning to experience the adverse effects of our great achievements:

- *The world's natural resources are being rapidly depleted.*
- *Our planet's water and air are no longer pure and clean.*
- *Thousands of plant and animal species are threatened with extinction.*
- *Nearly half the world's population suffers from malnutrition.*

While science and technology have given us tremendous power, we are also confronted with an awesome responsibility: to use the power and ability wisely, to make equitable decision tradeoffs, and to make valid and just choices when there is no absolute "right" alternative. Whether we have used our new powers wisely is highly questionable.

Today's youth will soon become society's decision-makers. Will they be capable of improving upon the decision-making of the past? Will they possess the skills and abilities to make effective, equitable, long-range decisions to create a better world?

To the student:

This module has been prepared to help you—the student and future decision maker—function more effectively in a rapidly changing world. Other modules in the *Preparing for Tomorrow's World* program focus on additional issues of current and future importance.

To the teacher:

It is our belief that this module—and indeed the entire *Preparing for Tomorrow's World* program—will help you the teacher prepare the future decision-maker to deal effectively with issues and challenges at the interfaces of science/technology/society. It is our belief that the contents and activities in this program will begin to prepare today's youth to live life to the fullest, in balance with Earth's resources and environmental limits, and to meet the challenges of tomorrow's world.

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Note to teachers . . .

An examination of the filmstrip, maps, overlays and other materials in the Data File which accompanies this manual will reveal that Beacon City is closely modeled after the resort city of Atlantic City, New Jersey. However, although much of the physical and socioeconomic data for the city and the uptown redevelopment site are accurate, some data items and all individuals described in the role profiles are fictitious. Role characteristics and viewpoints were fabricated to represent varying positions on the issues for the purpose of promoting a dynamic interchange of ideas.

Some of the alternative proposals for development of the site are based on plans which have actually been submitted by different people for the Atlantic City site. The majority, however, were designed by the project staff to introduce a variety of possible land uses into the exercise to provide diversity, heighten interest and enhance the simulation experience.

The maps and overlays which form such an important part of this simulation are adaptations of a series of maps developed by four graduate students at the University of Pennsylvania, Urban Design School — Leonard Chaikowsky, Eric Lautzenheiser, William O'Brien, and Robert Tom. The project staff extends its most sincere thanks to them for allowing us to include their materials in this simulation.

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INTRODUCTION

In recent years, increasingly greater numbers of educators have come to recognize that games with simulated environments can be extremely powerful educational tools. Although the research is not yet clear as to whether factual content, for example, is learned more effectively through game playing than by more traditional methods, it is clear that game playing is enjoyable and motivates all types of students. As Billy Rojas has stated:

*"Self motivated as well as unmotivated students can become involved in game dynamics and subsequently become interested in the subject matter that was simulated. Games are orderly systems which offer the student a sense of control, which in turn partly accounts for the power of the games to motivate players. Games help students understand the world by integrating selected aspects of reality in such a way that the relationships among them become clear as the player manipulates them. Because they create student interaction, they open up the classroom to student-to-student communication which, depending upon the nature of the game, can result in a sense of group coherence, even esprit. Beyond this, and perhaps equally important, they alter attitudes toward authority. Since the rules are built into the games, and are not the product of the authority of the teacher, students are less likely to respect authority blindly, for its own sake."*¹

Beacon City is an urban land use planning simulation game that educationally is based on the cognitive theories of Jean Piaget, the philosophy of John Dewey, and the cognitive-developmental model of moral reasoning of Lawrence Kohlberg. These theories stress that an individual's cognitive development is contingent upon extending one's environment by going beyond oneself to consider the perspective of others, reflecting on one's own actions and their relationship and interaction in the social and physical sphere. This involves exposure to ideas different or in conflict with one's own in order that one can begin to explore alternatives and think, not in terms of given realities but of possibilities.

Land use planning techniques patterned after the pioneering work of Ian McHarg as well as strategies and techniques developed by scholars in the emerging field of Futuristics (futures forecasting, for example) are integral components of the module.

Beacon City is designed to be a completely self-contained simulation. All materials needed to use the module in the classroom are present in the package. These materials include:

- **Filmstrip and Audio-Cassette Recording.** To familiarize your students with the physical features and citizens of Beacon City.
- **Game Overview.** To acquaint your students with the game — its purposes and objectives.
- **Role Cards.** To acquaint and orient your students with the roles they will portray, tasks they should perform and some suggested strategies.
- **Data File.** Contains the maps, tables, charts, necessary readings, and other data required to develop proposals, create presentations, formulate arguments, and so on.
- **Student Worksheets (4).** To help students develop and synthesize the information they will need to portray their roles and participate in the simulation.

Number of roles: 25 (6 groups, 3 in each; 7 council representatives). However, the total number of roles can be adjusted by reducing the number of individuals in each group or by doubling up on various roles.

In the development of this simulation, a number of liberties have been taken in order to create a more manageable classroom exercise. The actual process of urban planning and redevelopment is, of course, much more complex, involving numerous agencies at the federal, state and local levels. In this simulation, the planning process has been narrowed down to the evaluation of six possible proposals. This affords students the opportunity to experience some of the many dilemmas confronting citizens and governing officials of an urban community. The information and data that they will analyze, in most cases, are taken with slight modification from the true situation. Hence, real problems are reflected, and in reality the solutions are not clear-cut, and even when implemented, never completely respond to the diversity of needs within a community.

Throughout the simulation, students will need to address problems and dilemmas from different perspectives. Great emphasis is placed, not only on physical site problems but also on the social, political and economic realities of planning problems in an urban environment. Hence, the strategies employed in the simulation afford students numerous occasions to improve their skill and ability in such critical areas as decision-making, problem solving, data analysis, and ethical/moral reasoning. The use of futures forecasting techniques and projections of alternative future environments provide students with useful, new and exciting experiences that help students consider and analyze both the long and short term results of their decisions.

¹Rojas, Billy. "Futuristics, Games and Educational Change," in Alvin Toffler (Ed.) *Learning for Tomorrow*. New York: Vintage Books, 1974, p. 223.

The Theoretical Basis of *Preparing for Tomorrow's World*:

The Socio-Scientific Reasoning Model

As pointed out in the Introduction to this guide, developments in science and technology are not without societal issues and problems. New developments and applications will inevitably bring about new issues as well as increase their complexity. Unlike scientific problems, socio-scientific problems often have no "correct" answer because they involve human choices and decisions. Such choices and decisions are value laden. The particular decisions made today and tomorrow will determine the course of the future. Hence, we are faced with the profound challenge to make just and wise decisions in order to create a better future world. To help prepare our students to become more effective problem solvers and decision makers, education will need to focus on the simultaneous development of the following skills:

- Ability to deal with problems containing multiple interacting variables
- Decision making that incorporates a wider social perspective
- Critical thinking in the evaluation of consequences and implications

Components of the Socio-Scientific Reasoning Model

In response to the above concern and recognizing the importance of this mode of development, we developed the "socio-scientific reasoning" model to serve as a framework in the production of our curriculum materials. This model combines our own philosophy, ideas and research with the theories and philosophies of Piaget, Dewey, Kohlberg and Selman. Basic to these theories is the idea of education as helping an individual grow both intellectually and morally. Therefore, this socio-scientific reasoning model approaches education from a developmental perspective. This model incorporates the ideas of stage development from the perspective of cognition, moral ethical reasoning and social role taking. The basic tenets of these theories are briefly summarized below.

Logical Reasoning

Jean Piaget, the noted Swiss psychologist, has made important contributions in the area of cognitive development which are pertinent to our efforts^{1,2}. Piaget views the development of logical reasoning as progression through the series of stepwise stages indicated in Table 1 (sensori-motor, preoperational, concrete operational and formal operational). At each successive stage the logical reasoning ability of individuals takes on a broader perspective and incorporates the ability to deal with greater numbers of interacting variables of increasing intellectual complexity. Each stage of thinking builds upon the previous one, but takes on a new structural form. Growth in cognition, it seems, can be facilitated and nurtured through appropriate educational experiences.

In explaining growth in logical reasoning capability, Piaget refers to the processes of assimilation, accommodation, and equilibration. Assimilation occurs when the child incorporates new ideas and situations into his or her existing thought structures. On the other hand, the child also encoun-

ters objects and events that do not fit into his or her existing thought structures. In these contradictory situations, the child has essentially two options: he/she must either enlarge his/her existing structures or create a new category or structure. Piaget defines this as the process of accommodation.

Intellectual growth, Piaget postulates, occurs when the individual attempts to resolve the tension between the interactive processes of assimilation and accommodation by developing new thoughts and responses that are more suitable or adequate. Equilibrium is re-established when thought structures are altered, producing new accommodations that enable the individual to assimilate the new situations. Intellectual growth, then, occurs through internal self-regulation processes that lead to new, higher levels of equilibration.

Moral/Ethical Reasoning

While there are several approaches to values education, the more encompassing one is the cognitive developmental approach offered by Lawrence Kohlberg^{3,4}. Kohlberg's ideas are derived from the philosophic positions of Dewey and Piaget. The emphasis here is to help individuals grow intellectually and morally. This is, we feel, a more functional approach than arbitrary indoctrination of values as used in "character" or "socialization" education or taking a "values relativity" stance, typically employed in the more common values clarification approach.

Kohlberg's moral ethical development theory is an extension of Piaget's cognitive development theory. Similarly to Piaget, Kohlberg views moral development from childhood to adulthood as progression through a series of stages (Table 2). Each stage is characterized by a very different way of perceiving and interpreting one's experiences. At Kohlberg's Stage 2, for example, "right" and "wrong" are judged in terms of satisfying one's own needs and sometimes the needs of others if it is convenient to do so. Stage 3 type of reasoning centers around maintenance of approval in one's own social group. The orientation is towards conformity to group expectation. At the higher principled stages, reasoning takes into account concerns for the welfare of others in a broader context, and includes concerns for human dignity, liberty, justice, and equality—those very same principles upon which our Constitution is based.

Following Piaget, Kohlberg views development not as mere accumulation of information, but changes in thinking capabilities—the structures of thought processes. In the course of development, higher-level thought structures are attained and result in the extension of an individual's social perspective and reasoning capabilities. Applying higher levels of thinking to problems results in problem solutions that have greater consistency and are more generalizable. See Appendix detailing the stages of development.

Social Role-Taking Stages

The research of Robert Selman⁵ indicates that social role taking ability is a developed capacity which also progresses in a series of stages from early childhood through adolescence. Role taking is viewed by Selman in terms of qualitative

changes in the manner a child structures his/her understanding of the relationship between the perspectives of self and others.

Using the open-ended clinical method of inquiry first applied by Piaget and then later by Kohlberg, Selman has identified and defined Stages 0 through 4 (age range is approximately 3 years to 15+ years). These stages are referred to as: Ego-centric Viewpoint (Stage 0), Social-Informational Role Taking (Stage 1), Self Reflection Role Taking (Stage 2), Mutual Role Taking (Stage 3), and Social and Conventional System Role Taking (Stage 4). Descriptions of the role taking stages appear in Table 3. Each of Selman's role taking stages relates closely to and parallels Kohlberg's moral reasoning stages.

Selman views the social role taking stages as a link between Piaget's logical reasoning stages and Kohlberg's moral reasoning stages. Just as Piaget's logical reasoning stages are necessary but not sufficient for attaining the parallel moral reasoning stages, a similarly necessary but not sufficient relationship appears to exist between the social role taking stages and parallel moral reasoning stages.

As Selman has pointed out, "... the child's cognitive stage indicates his level of understanding of physical and logical problems, while his role taking stage indicates his level of understanding of the nature of social relations, and his moral judgment stage indicates the manner in which he decides how to resolve social conflicts between people with different points of view".

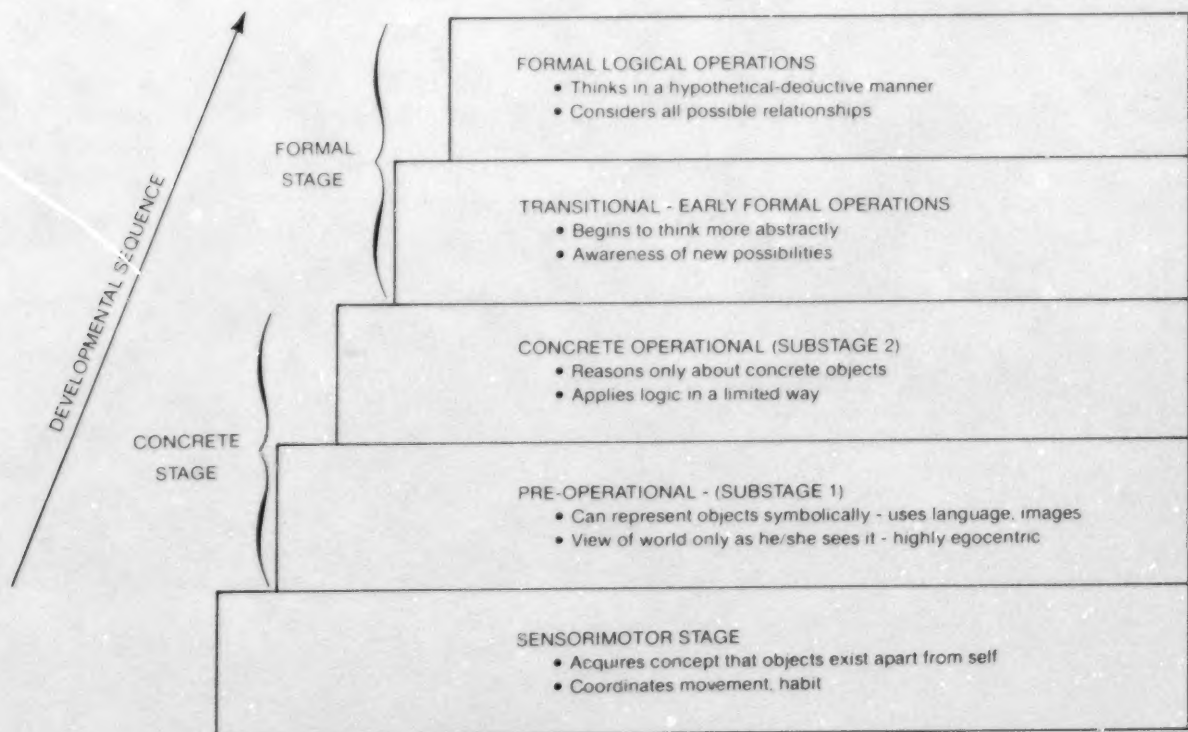
The Socio-Scientific Reasoning Model

Combining our own philosophy, ideas, and research with the theories of Piaget, Kohlberg and Selman, the socio-scientific reasoning model has been developed. Socio-scientific reasoning, as defined here, is the incorporation of the hypothetico-deductive mode of problem solving with the social and moral/ethical concerns of decision making. This model has served as a guide in the development of educational materials to help students advance to higher levels of thinking and reasoning capabilities. Moreover, it is highly flexible and readily adaptable to other classroom activities.

The basic assumption of this model is that effective problem solving requires simultaneous development in the realms of logical reasoning, social role taking, and moral ethical reasoning. Purely objective scientific thinking cannot be applied in the resolution of most of the probable future conflicts without regard to the impact of those decisions on human needs and human goals. A technological solution, for example, may be, after critical analysis, feasible and logically consistent. From a societal perspective, however, one must question whether or not it should be applied. How to best prioritize our needs and evaluate trade-offs with a concern for the needs of future generations involves logical reasoning and critical thinking, but now with an added dimension ... a social moral ethical reasoning dimension.

Hence, the Socio-Scientific model consists of four interacting components (see Figure 1): (1) logical reasoning develop-

TABLE 1
PIAGET'S STAGES OF COGNITIVE DEVELOPMENT



ment is based on the theories of Piaget, while (2) moral/ethical reasoning relies strongly on Kohlberg's ideas. Selman's research provides the basis for the third component, the social role taking aspects of our model. Since the content or information component of the problem (component four) will vary, so too will the concepts vary accordingly. For example, in our applications of this model we have concentrated on issues at the interfaces of science, technology, and society. Of

course, problem issues could also deal with or focus on any other topic one chooses to investigate.

The content component also consists of three interacting subunits. These subunits—science, technology, and society—rely on each other for their very existence. While each of the subunits is dependent upon the others, their individual underlying value structures create a high potential for discord since the concerns of one subunit often conflict with those of the

TABLE 2
KOHLEBERG'S STAGES OF MORAL DEVELOPMENT

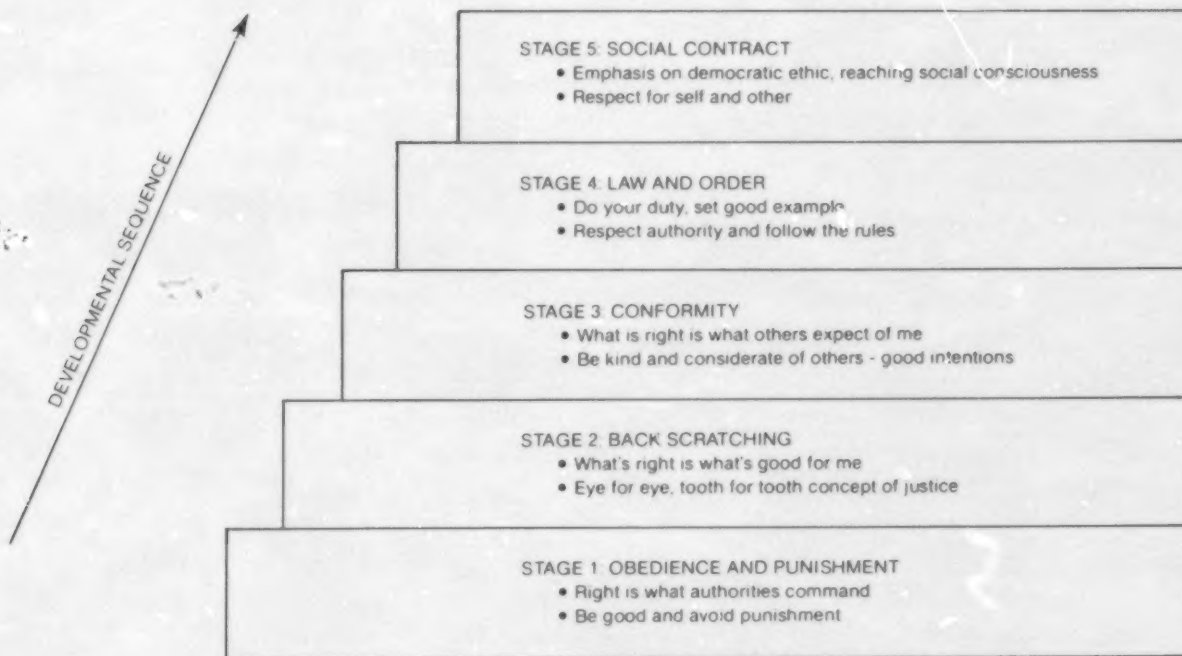


TABLE 3
SELMAN'S ROLE-TAKING STAGES

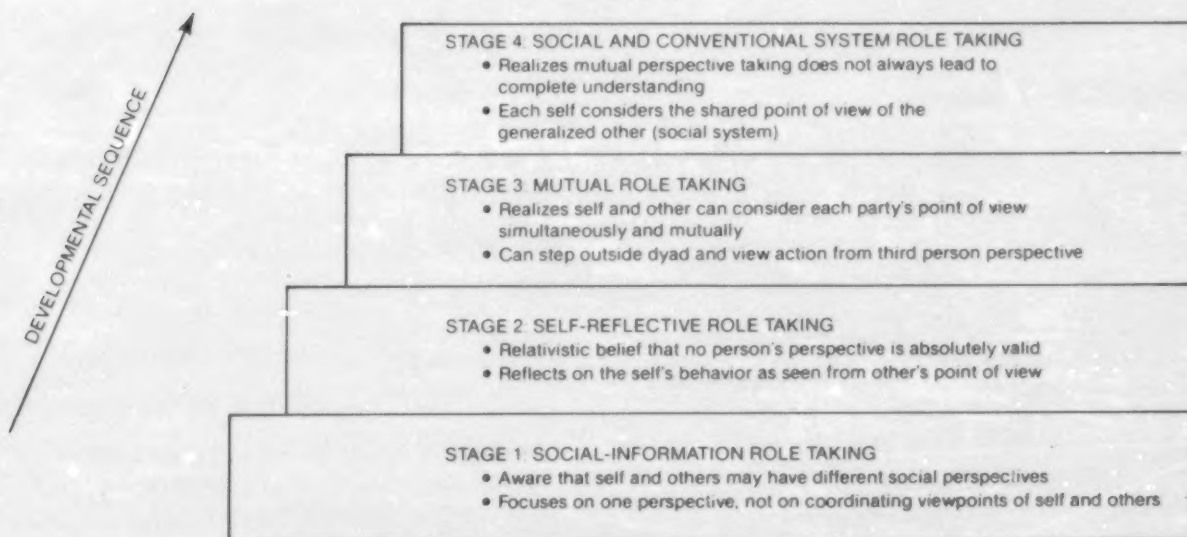
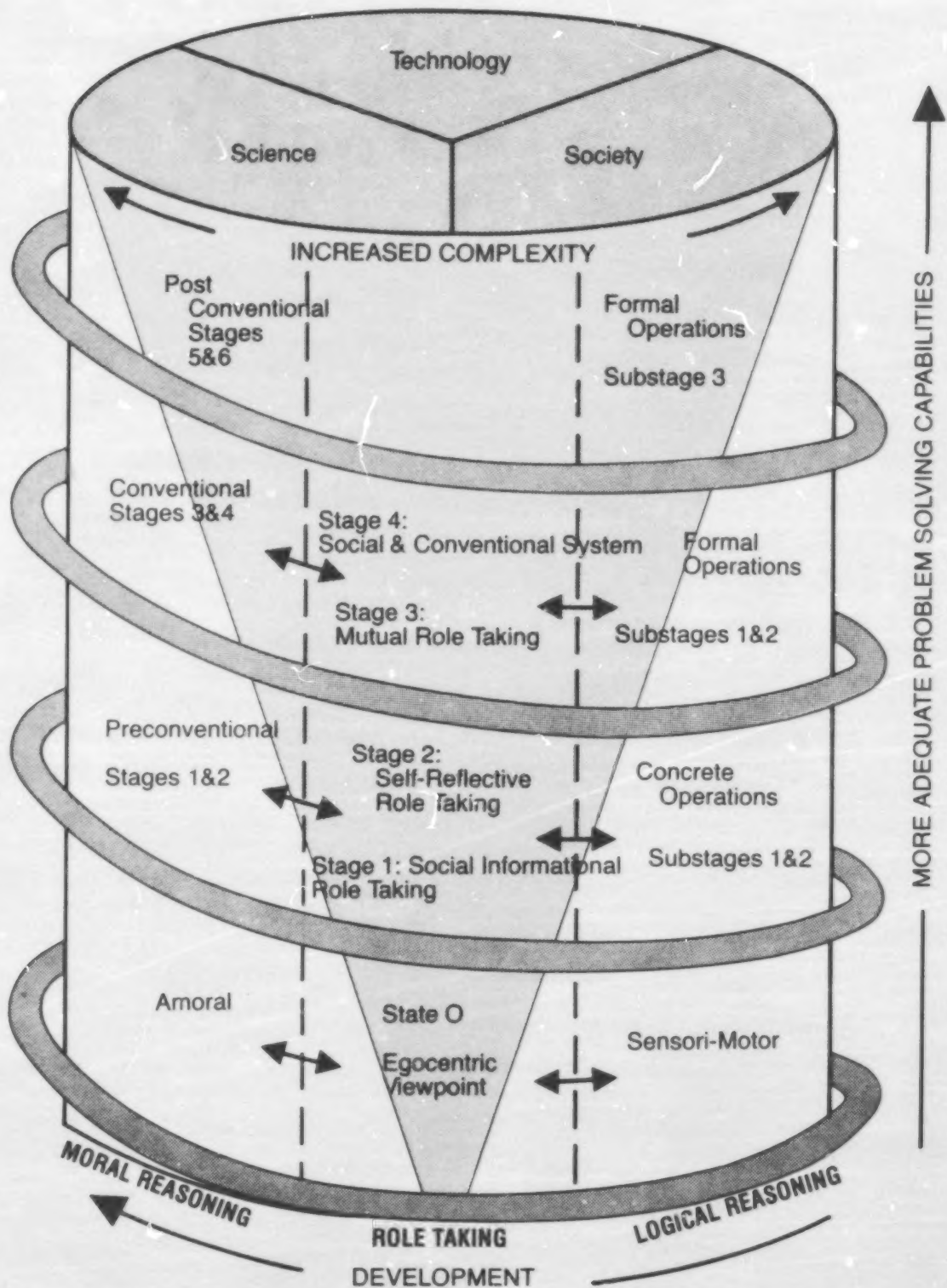


FIGURE 1

THE SOCIO-SCIENTIFIC REASONING MODEL



others. This paradox—dependence and simultaneous conflict among the subunits—presents a unique opportunity and context for curriculum developers employing the Socio-Scientific Reasoning model to prepare educational materials.

Each component of this model is not seen as a totally separate and distinct entity. Rather, each of the four components interacts with and has an effect on all other components. Thus, logical reasoning has an effect on, and in turn is affected by, social role taking development. In a similar manner, social role taking has an effect on, and is affected by, developments in the moral-ethical realm. Of course, logical reasoning and moral-ethical reasoning also interact. Each of these major components—logical reasoning, social role taking, and moral-ethical reasoning—interact not only with each other but with the fourth component, content or information.

Referring to Figure 1 again, the content cone is small at the low end because at earlier stages of development the number of concepts entertained are smaller and the concepts are simple in nature. Hence, as the cone broadens so too does the complexity of content or information included. Individuals at stages of development intersecting the lower end of the cone can deal with issues and concepts of a simpler form while, on the other hand, individuals at the upper end with higher levels of maturity have the capacity for dealing with more issues and issues of greater complexity. Development, then, is both vertical and horizontal: vertical development is from lower to higher stages; horizontal development relates to the “necessary but not sufficient” requirements which must be satisfied as one moves from logical reasoning, through social role taking, to moral reasoning capabilities.

Thus, while each stage reflects a distinctly unique capability for problem solving in a science-technology-society context, we view development or progress as a continuously spiraling process. In this process, however, there are leaps and quiescence, and fixation at any stage is possible. Levels of logical reasoning, moral reasoning, and role taking maturity also seem to vary, we find, depending on the issues addressed. These apparent inconsistencies in reasoning—even when dealing with the same or similar mental and moral constructs—seem to be related to the degree of emotionality, familiarity with, interest in, and/or knowledge about the issues under consideration.

The goal then is to help each individual “spiral” upwards through the Socio-Scientific Reasoning cone and synchronously achieve “more adequate” problem solving capability. “More adequate” as used here refers to the idea that when applied to problem solving, the higher stages of reasoning result in solutions that are more encompassing and generalizable; they enable students to deal with greater complexity.

Application of the Socio-Scientific Reasoning Model in the Classroom

The Socio-Scientific Reasoning model therefore serves as the basis for identifying the types of learning experience and the sophistication level of those experiences important to help students develop. It recognizes that learning capabilities differ with age, grade level, interest and learning needs. Implicit in the model and in accord with stage theory is the idea that at each stage there is a characteristic form of think-

ing capability which determines how experiences and information are interpreted and acted upon.

The main strategy underlying all of these activities is based on Piaget’s concept of equilibration. It is only when disequilibrium is created that active restructuring of thought takes place. This active restructuring leads to growth in logical reasoning, in social role taking, and in moral-ethical reasoning capabilities as well.

Restructuring of existing cognitive structures occurs when internal disequilibrium is felt by the individual. New experiences and inputs which are not readily comprehensible to the individual challenge his/her existing mode of thought by revealing inadequacies or inconsistencies in that problem solving strategy⁸. Arrestment at a given stage is partially explained by the developmental theorists as the lack of opportunities that create conflict or dissonance which place the individual in a position where he/she needs to assess his/her particular mode of thinking. Perhaps, as Clive Beck points out, the reason why people do not develop morally is because they have not had the opportunity to entertain alternatives—their imaginations have not been extended⁹. We, in addition, contend that the reason people do not advance in logical reasoning can also be attributed, to a large degree, to a similar lack of opportunities.

We have identified some of the basic elements needed to provide experiential opportunities that promote development of problem solving and decision making skills. A partial listing includes providing opportunities for students to:

- Encounter a variety of viewpoints
- Experience higher level reasoning
- Take the perspective of others
- Examine and clarify one’s own ideas
- Examine the consequences and implications of one’s decisions
- Defend one’s position
- Evaluate possible alternatives
- Consider and recognize the role of the self to society
- Reflect on one’s own value system
- Test own ideas and those of others

One educational activity which incorporates some of these elements is the classroom dilemma discussion, an activity most commonly associated with Lawrence Kohlberg and his colleagues. We have, however, modified and extended this approach to more systematically encompass critical analysis and evaluation of information and data. We have also employed such other formats as role taking, simulations, and futures forecasting and analysis methodologies.

For example, reasoning at a particular stage is not a value judgment of whether an act is good or bad, but is the pattern of the concepts entertained in judging the “ought” of rights, duties and obligations of human relationships. Younger children at lower stages reason about duties in terms of reciprocal benefits from the party—“If you do me a favor, I will do you a favor.” Whereas in principled reasoning, duty is what an individual has become morally committed to do and is self-chosen. Higher stage reasoning is therefore the ability to apply value concerns (Kohlberg’s major concerns include self welfare, welfare of others, sense of duty and of motives, conscience, rules, punitive justice, role taking) in a more

internalized, complex, autonomous, critical, consistent and generalized manner.

Effective discussion, however, cannot take place in a vacuum. Needed also is an information base or context from which students can begin to analyze and evaluate information. With information which they have extracted and synthesized, additional ideas and rational arguments can be developed for discussion. For curriculum activities, we have created problem situations in a variety of contexts which, according to scholars in a variety of fields, will be prominent

in the next quarter century and beyond¹⁰. This adds another perspective to the dilemma problem—that which elicits scientific logical reasoning in addition to moral/ethical reasoning—but in a futuristic context.

These serve as mechanisms for students to put some of the ideas and judgments that have emanated from the discussion into larger structural frameworks. They also provide students with opportunities to project into the future, to think beyond their own immediate experiences, and to consider the impact of different decisions on future society.

¹Jean Piaget, Piaget's theory. In Thomas Lickona (Ed.) *Character's manual of child psychology*. New York: John Wiley and Sons, 1970.

²Howard E. Gruber and J.J. Vonèche. *The essential Piaget*. New York: Basic Books, Inc., 1979.

³Lawrence Kohlberg, Moral stages and moralization: the cognitive-developmental approach. In Thomas Lickona (Ed.) *Moral development and behavior: theory, research, and social issues*. New York: Holt, Rinehardt and Winston, 1976.

⁴John Gibbs, L. Kohlberg, A Colby and B. Speicher-Duban. The domain and development of moral judgment. In John R. Meyer (Ed.) *Reflections on values education*. Waterloo, Ontario, Canada: Wilfred Laurier University Press, 1976.

⁵Robert Selman. Social-cognitive understanding: a guide to educational and clinical practice. In Thomas Lickona (Ed.) *Moral development and behavior: theory, research, and social issues*. New York: Holt, Rinehardt and Winston, 1976.

⁶*Ibid.*, pg. 307.

⁷Louis A. Iozzi. *Moral judgment, verifiability, logical reasoning ability and environmental issues*. Doctoral Dissertation, Rutgers-the State University of New Jersey, 1976.

⁸Carol Tomlinson-Keasey and Clark B. Keasey. The mediating role of cognitive development in moral judgment. *Child Development*, 1974, 45, 291-298.

⁹Clive M. Beck. *Ethics*. Toronto: McGraw-Hill, 1972.

¹⁰Harold G. Shane. *Curriculum change toward the 21st century*. Washington, D.C.: National Education Association, 1977.

OVERVIEW OF BEACON CITY

Description of the Simulation

A 56-acre parcel of land in Beacon City, cleared for urban renewal, has been vacant for several years. This choice piece of property is in an ideal location — overlooking the ocean and adjoining the boardwalk, one of Beacon City's major attractions. Although the parcel of land is presently zoned for commercial use, it can, with the city council's approval, be zoned for other uses.

Several interest groups both within and outside of Beacon City would like to see the land used for different purposes. Hence, six teams of people (three members to a team) prepare separate proposals. The proposals range in scope from simply developing the area for use as an open-space/park, to constructing a huge resort hotel complex. Each team has ten minutes to present its proposal to the Beacon City Council. After "hearing" each proposal, the city council votes to select the proposal it finds to be most appropriate and desirable for the site.

Each of the four wards has one representative (councilperson), and three additional council representatives-at-large represent the entire city. Thus, there are a total of seven members on the city council and each casts one vote. Upon casting his or her vote, the council member must state why he or she voted for one proposal over the others. To be approved, a proposal must receive four of the total seven votes cast.

The team whose proposal is approved wins the game. If no proposal receives the necessary majority (four votes), the proponents can then meet with members of the council to try to sway enough votes for their proposal. This procedure is continued until a winning team (proposal) emerges.

Unique in this simulation, the students, in portraying their roles, will be required to:

- select from among alternative land uses one which will best promote the goals of the city and its residents;
- defend their decisions in terms of the implications for the future of the city;
- work with and analyze, for the most part, real life data and real situations;
- select useful and meaningful data from the Data File which will support their positions and proposals;
- identify and develop strategies to create an effective and persuasive presentation.

Objectives of Beacon City

Students will be able to:

- Evaluate alternative land use plans designed to resolve social, economic, and physical problems of an urban environment.

- Select from among alternative land uses and defend their choice and decision.
- Recognize the implications of land use decisions on social, economic and physical parameters.
- Analyze the interaction of multiple variables that impinge on urban problems.
- Demonstrate the use of a community perspective in resolving urban planning problems.
- Evaluate the relevancy of data and judge the adequacy of the conclusions drawn from the data.
- Identify the value orientation of a particular decision.
- Evaluate arguments of the alternative proposals.
- Compare the long-term and short-term benefits of the alternative proposals — their impacts on the different community groups.
- Synthesize and evaluate data from a variety of sources.

Promoting Student Development

A major goal of Beacon City is to improve or raise students' social-ethical reasoning level. As discussed previously in Section II, social-ethical levels of most people can be advanced through participation in certain types of interactions. Such interactions include opportunities where one can personally explore and expand one's world view. Thus the simulation activities in Beacon City offer opportunities for students to test their responses to critical social or moral problems in a dynamic and interactive manner. They are challenged to develop solutions that will most appropriately resolve the social and economic dilemmas of a declining urban community. In the process, they must examine their own thinking and the thinking of their peers, as well as society at large. By assuming a role different from their own, they learn to take the viewpoint or perspective of another person. Perspective taking is an important element in promoting growth, because it allows one to experience alternative positions. When one begins to examine other alternatives, one also begins to re-examine one's own ideas and thinking. This leads to the restructuring and reorganization of one's thought patterns and hence to growth.

Given the student-directed and open format of Beacon City, students can more freely express their own ideas and challenge each other's ideas. An interactive sharing of ideas and trying to search for the best solution therefore forms the central thrust of this simulation. It is important throughout the simulation that students confront the difficult task of decision making and experience the conflicts that arise when differences of interest come into play.

Conflict, a fundamental factor in stimulating thinking, exists on three levels in this simulation.

Level 1

Between the individual student and the role to be played. Here the student's personal values are pitted against the implied values of the role character.

Level 2

Between the students in the group. Here differences of opinions will arise, and group members need to reach some consensus in order to develop an integrated proposal.

Level 3

Between the different interest groups as well as with the council members. Here the diversity of interests among different community groups are most vigorously illustrated. When students are exposed to con-

flict they begin to examine the reasons or arguments of one and the other position. Learning to consider the different sides of the argument and testing the different modes of reasoning lead to more critical thinking.

As the students become involved in the simulation, they will encounter a number of moral-ethical questions. For example, a commercial development may best profit the investors, but will it help to resolve the social and economic plight of the disadvantaged citizens of the community? The issues of decent housing, employment opportunities, discrimination and competition come into play in the simulation.

As teacher, it is important to encourage debate and discussion of these issues as they emerge. Some may not be readily apparent to the students and may need to be brought to their attention by interjecting thought provoking questions at appropriate times.

PREPARING TO USE BEACON CITY

Preparation and Preliminary Planning.

- Review the role cards, Data File and student hand-out sheets. Be on the lookout for those instructions that may need to be clarified for the students.
- It may be helpful to take one of the roles and follow through the tasks and activities suggested for that role. This will provide you with an understanding of how the students might use the materials and help you plan the classroom logistics, such as furniture arrangement and location of Data File.
- Although all the materials and references needed for the simulation are included in *Beacon City*, supplementary readings and references can be helpful in terms of providing basic introduction or specific in-depth background in community planning, land use, municipal government, environmental and social issues, etc.
- Arrange to have a filmstrip projector and cassette tape recorder available when introducing the simulation. A filmstrip and cassette recording are included in *Beacon City* to help orient the students to the physical and social conditions in *Beacon City*.
- Be sure your module is complete. (Check against master list.) Sometimes a transparency of a role profile card is a helpful illustration to use when explaining the procedures of the simulation.
- Organize the role cards and pre-sort them for ease of distribution. Arrange and set out the Data File so that it is readily accessible to the students. (You might feel that additional copies of certain items of the Data File are needed. If so, duplicate these.)
- Try to visualize the logistics involved in the simulation. Arrange the room or rooms such that students can comfortably participate in the group discussions. The students will be divided into six community groups and the city council.
- Decide how to distribute roles among players. You may either assign students to specific roles or have them select the roles they wish to portray. There are a total of 25 roles. If the class is larger than 25, students may need to double up on the roles. Try, however, to keep the groups equivalent in size.
- If feasible, teams should be of mixed abilities. Perhaps students who are less skillful in one area should be paired off with someone more competent in that skill. On the other hand, students may perform better if they are allowed to choose their own roles and teammates.
- In conducting *Beacon City*, a certain degree of proficiency (commensurate with the cognitive levels of high school students) in the following skill areas is assumed.
 - Analyzing data, correlating data, and drawing conclusions from data.
 - Interactive skills such as role playing, debating, decision-making by negotiation, social conflict resolution.

Interpreting Data

A large portion of the information in the Data File is in the form of tables, charts and graphs. The usefulness of this type of information will depend upon students' familiarity with and skill in interpreting data. Many people, for example, view a table listing a set of numbers as dry and boring. This is the case if one does not draw relationships between the numbers. Therefore, it is the interpretation, inferences made and conclusion extracted that make data interesting and meaningful.

The students will derive much more information from the materials in the Data file if they have some preliminary practice in data analysis. For example, have the students examine the data presented in the following table. After studying the data, ask them to state some conclusions about the educational experience of Beacon City residents and how this influences the character of the city (e.g., level of education, comparison of educational level with the rest of the state, employment opportunities, etc.).

Table 1
Educational Achievement, 1970

	New Jersey	Atlantic County	Beacon City
Persons 25 years or older	4,045,606	106,161	31,855
School years completed: Median years	12.1	11.2	10
Less than 5	4.7%	5.7%	8.6%
4 years of high school or more	52.5%	44.4%	35.4%
4 years of college or more	11.8%	6.2%	3.5%

Source: U.S. Department of Commerce, *County and City Data Book*, 1972, Tables 2, 6.

Interpretation of the data presented in Table 1

The declining vitality of Atlantic County, and particularly of Beacon City, is reflected in the educational level achieved by its inhabitants (Table 1). Less than half of the people (44%) above 25 years old and living in Atlantic County have finished four years of high school; only one-third of Beacon City residents (35%) have finished high school. This is considerably below the state average of 52.5%. Similarly, while 12% of this

age group in the state have finished four years of college, only 6% in Atlantic County have done so and the percentage drops to 3.5% in Beacon City. This indicates a lower level of professionals and skilled workers which has a bearing on the economic and social problems of the city — i.e., unemployment, low-income, etc. Have students practice using other tables from outside sources or examples from the Data File as necessary.

Overlay Map Technique

The uses of maps and their importance are well-known to social and natural scientists. In recent years, however, the pioneering environmental planner Ian McHarg has developed another powerful method for using maps (McHarg, 1971). The overlay map technique can, when properly used, serve as an excellent aid for decision making. The technique employs the use of a base (or basic map) and a series of transparent overlay maps to be used in conjunction with the base map and each other. By combining the base map with one or more of the overlays in varying preselected combinations, relationships among physical, social, political and other variables emerge.

Unique to this approach is that for the first time physical and natural environmental factors (topography, soil, flood area, bedrock geology, etc.), socio-cultural variables (historic sites, scenic areas, ethnicity, etc.), medical/health variables (disease areas, pollution, etc.), human values and other variables can be mapped to highlight various conditions and their interrelationships.

A demonstration on the use of these maps should be part of your introduction. This is perhaps best done using an overhead projector to enlarge the maps for the entire class to see. Take the Base Map transparency and select several overlays and have the students interpret the interaction between the variables. For example, using the population density and income overlay in combination, one will find that the lower income population resides in more crowded areas. While interpretation of the relationships that appear as a result of combining maps can be very complex, the basic technique for the most part is rather simple. If time permits (and additional practice is needed), you might have your students prepare a base map of the local community and make their own overlays illustrating various factors or variables about their own town (e.g., population density, ethnic distribution, etc.).

Although an overhead projector is helpful to demonstrate the overlay technique to the entire class, when the students work with the maps in the Data File they will not need a projector. They will simply place one or more overlays over the paper Base Map and directly examine the interaction.

Future Forecasting

The process of planning is, in effect, the development of a direction for the future. In this land use simulation, the selection of projects to be built on the urban renewal site will influence the future character of Beacon City. Thus, participation in this simulation is participating in futures forecasting in a general way. The planner has constructed a notion about a future goal and charts a course towards that goal. However, the planning can take a more rigorous form if students ap-

ply some of the techniques and strategies developed by practitioners and scholars in the field of futuristics. These techniques may be employed in the development of the proposal, the presentation of the proposal or the evaluation of the different proposals. Using these techniques will provide an added dimension to the simulation as well as be a stimulating learning experience. Some of the techniques that students can readily employ are briefly described below. For more in-depth discussion of forecasting, consult the references cited in the bibliography. An understanding of the forecasting methodologies will enhance the process of planning for the future and provides a more systematic procedure for decision making. Moreover, forecasting methodologies have wide applications and should perhaps be part of a student's repertoire of skills that he/she uses in making future plans. Learning to employ these techniques is well worth the additional effort.

Forecasting futures are procedures for determining future possibilities or identifying many of the possible alternatives. Unlike predictions which are statements about *what will happen*, forecasting is the examination of future possibilities, asking *what if . . . ?* Forecasting proceeds through a set of assumptions, data impact and logical system of analysis, continually posing the questions, "What changes will occur?", "What factors influence change?", "How desirable is the change?", "How can change be controlled?"

There are a number of ways to approach forecasting. Basically, the approaches fit into three categories:

Exploratory forecasting: This type of forecasting relies upon existing data and extrapolating that data to determine the direction of future change.

Normative forecasting: This type of forecasting focuses on identifying future goals and determining ways to attain those goals. Where exploratory forecasting examines the present and works towards the future, normative forecasting assesses future goals, needs and desires and works backwards towards the present to determine how those futures might be attained.

Modeling or simulation: This type of forecasting relies on known models of physical, social, political or environmental laws and tests their interaction and how those effects will impact on the future. Computer modeling is an application of this technique.

Each of these approaches has advantages and limitations. Hence, techniques from these approaches are frequently used in combination since they complement one another and can provide a more complete analysis.

Students may find the following techniques useful for analyzing and synthesizing information found in the Data File:

Trend Extrapolation

- Past and present data are plotted, the direction of the trend is determined and the trend curve is extended towards some future time.
- It attempts to show how a future event might evolve by simply extrapolating the observed historical pattern.
- The assumption is that the future will behave much in the same way as the past and present if no unforeseen changes are introduced.
- A population growth curve extended from the present to years in the future forecasting the size of a population at various times is such an example.
- In this simulation students might wish to use the graphs in the Data File or graph data from the Tables and extrapolate the trend curves. The resultant information may provide ideas for their proposal or can be used as evidence to support their proposal presentation.
- For example, students might extend trend curves of outmigration population, housing starts, hotel development or traffic counts, etc. This information would show a possible future if no new development takes place. Following this, students might examine possible

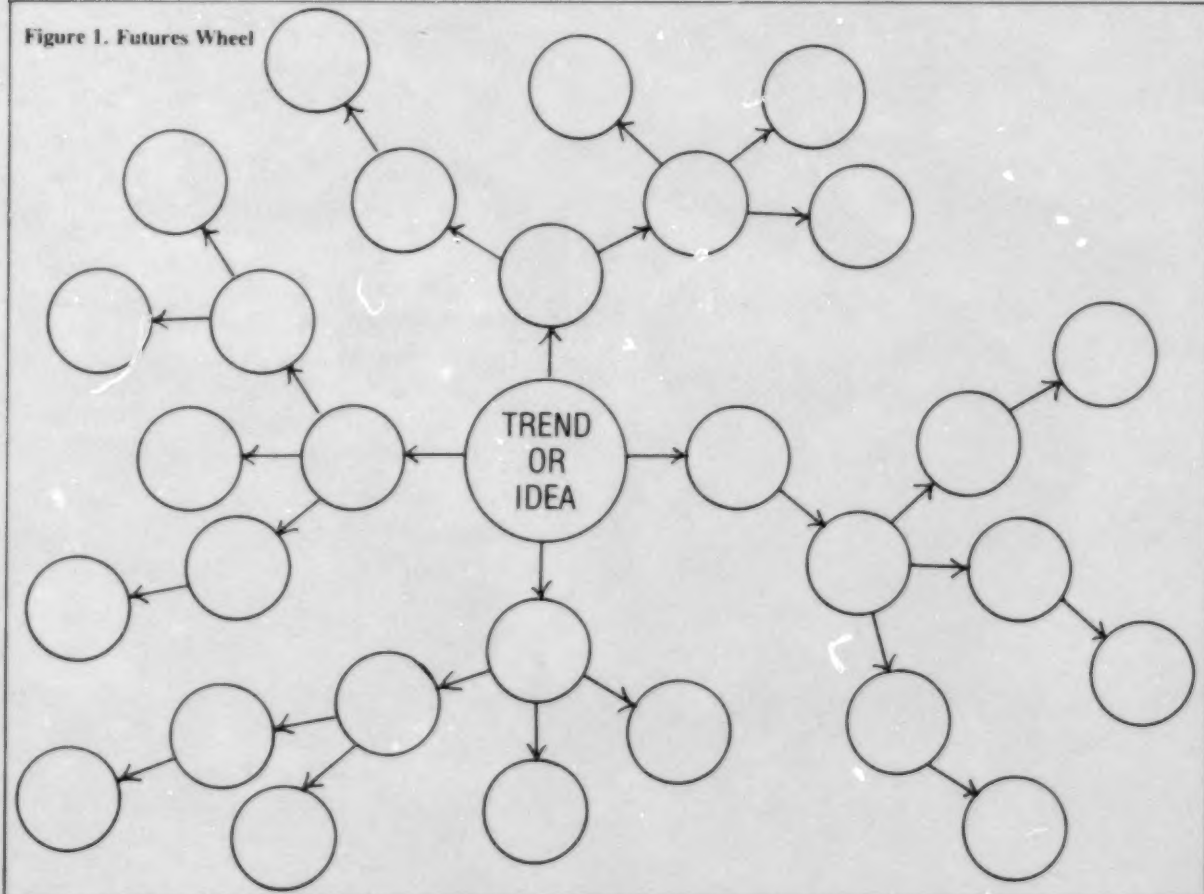
changes that can take place if their proposed development were accepted. A new amusement park, for instance, can attract thousands of visitors each day. If these visitors come by private automobile, will the highway corridor be able to accommodate the increased traffic? What demands might be placed on hotel rooms if visitors stayed over night? Such possibilities can be explored using trend extrapolation.

- In addition, the future trends may point out potential conflicts, unacceptable changes and new actions that need to take place. If a new amusement park were developed, will there be enough parking for cars? Will adjacent areas be razed for parking lots? Where will the displaced residents be relocated?

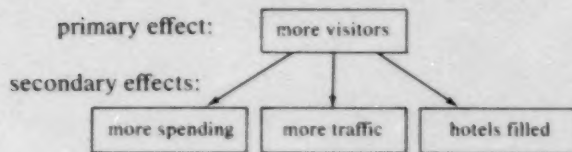
Future Wheel

- This is a useful visual technique to explore the consequences of a trend, idea or new development. It allows one to see how different effects will result and their possible inconsistencies or interaction.
- It is presented as a series of items (effects) that radiate as spokes from the central idea or theme.

Figure 1. Futures Wheel



- For example, if one were to explore the effects of an *amusement park*, *amusement park* would be enclosed in the central circle. A set of primary effects are then identified. They might include "more visitors," "more jobs," "increased activity in city," etc. From each primary effect secondary effects are identified.



These are listed in the secondary effect circles. Then third order and fourth order effects are listed and connected. The process is repeated for each of the primary effects. Some effects may relate to other effects and are connected by lines.

By examining the different effects it becomes possible to determine if the effects in general are desirable or undesirable. This is a good technique for testing an idea — examining its many possible consequences and showing how effects relate, one to another.

Relevance Trees

- Relevance trees are used to represent or describe the components of a problem or situation. They show the inter-connections between parts and the level of importance of the various parts.
- In constructing a relevance tree, one divides and subdivides a situation into smaller and smaller units. It allows one to sort out the components of the situation and identify elements of a problem or a path to the solution.
- For example, one identifies a problem and extends from it branches representing alternative solutions and the sequence of activities associated with them. The branches are hierarchical layers. That is, the higher level includes all the units below it. If one wishes to achieve a given alternative, all the lower branches connected to it and representing requisite activities must be accomplished to achieve the selected goal. At each level of the tree, the actions or decisions to be made are of the same type. (They are of equal importance or significance.)
- A relevance tree is useful for examining the desirability or feasibility of alternative solutions. By comparing the different pathways to the goal, one can avoid undesirable paths by proceeding through the sequence in a particular way.
- The following is a relevance tree describing a mass transit system. The main elements of the system are identified: vehicles, routes and schedules. Each of these elements are further subdivided. When one examines the subcomponents, one can begin to see the many possible ways in which a mass transit system can evolve. The vehicle may be controlled from the inside or outside. The system may depend on special tracks or run on existing streets. Schedules may be planned ahead or be determined after the vehicle leaves the station. Under each of these are other decision choices. Decisions made at the various junctures will determine the character of the system. A number of alternatives are thus possible, but by comparing the alternatives, one with the other, and with the particular needs of the community, one develops a firmer basis for decision making and planning — charting a course for the future.

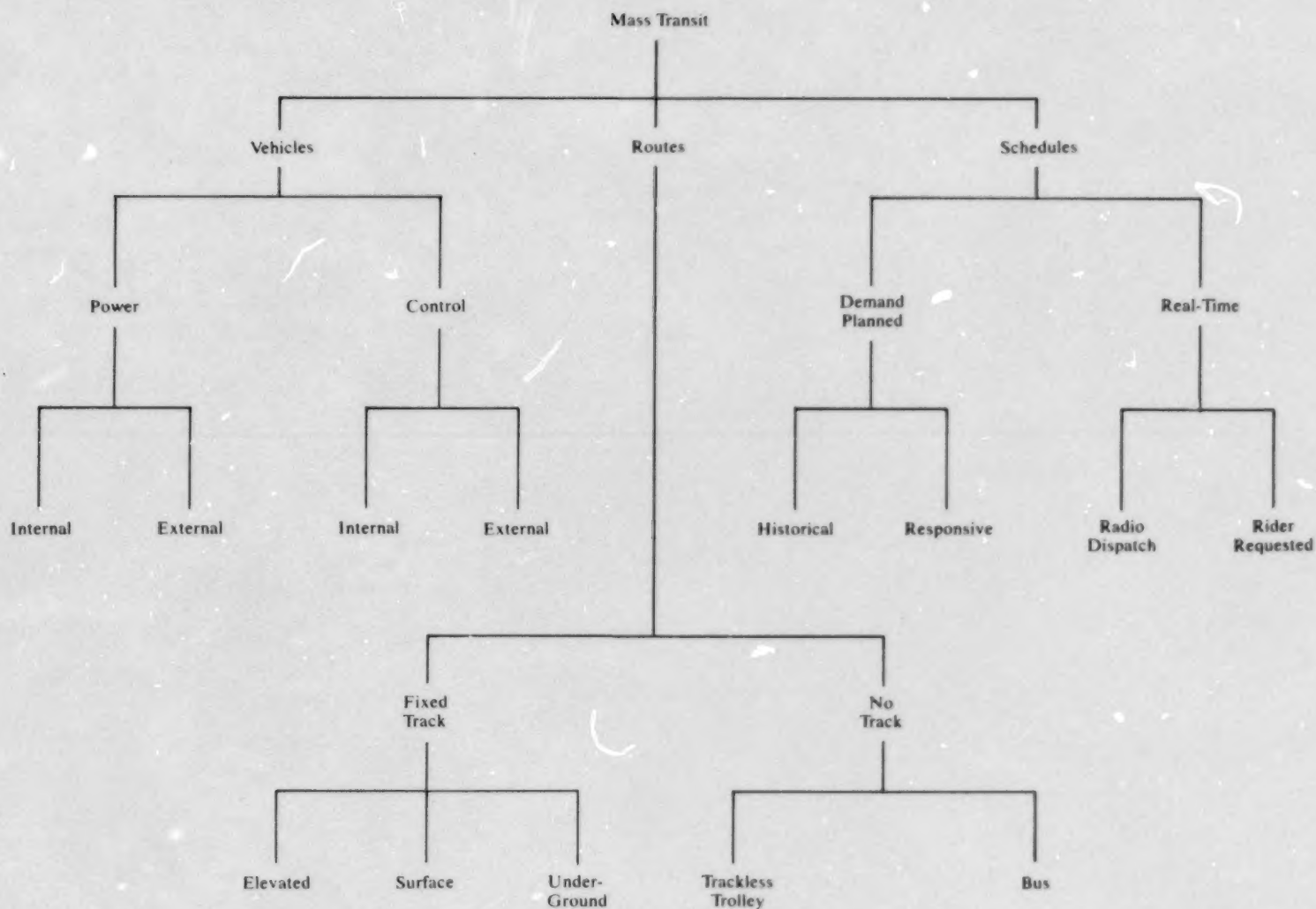


FIGURE 6. Possible relevance tree for mass transit.

From: *An Introduction to the Study of the Future*, World Future Society, Washington, D.C., January 1977, p. 178.

Delphi Forecasting

- A Delphi forecast or Delphi probe is a multi-step process used to elicit the opinions of experts and have them arrive at a consensus forecast of the future. The panel of experts are polled using several rounds of questionnaires. Each subsequent questionnaire is a refinement of the preceding and asks each panel member to reassess his/her initial response in light of the compiled responses of the panel.
- Typically, a Delphi probe is conducted by mail and the panel members remain anonymous. When the first round of questionnaires are returned, the responses are compiled and incorporated into the second questionnaire. The panel receives the second round questionnaire, and third and fourth rounds are developed in a similar manner. Each round thus requires the panel members to react to the collective opinions and to offer their own opinions and reasons to support that opinion. It is a process of feedback, refinement and seeking consensus, where experts can respond openly because they can remain anonymous. The resultant forecast can be the identification of a most probable alternative or a series of multiple possibilities.
- A Delphi probe is an appropriate activity for the city council and can be easily incorporated into the schedule. For example, after the council members have reviewed the Data File materials, a series of questionnaires can be developed which polls the council on future issues of Beacon City or what it believes are desirable alternatives for the future of Beacon City. (Most probably, students have not had experience with a Delphi probe, so you should act as the survey coordinator.) The following are broad idea categories that can be developed into questions.

Round 1: What are some of the needs and critical problems in Beacon City? What are some possible ways to solve them? (Answers should be explained in detail.)

Round 2: When and how can the alternatives be achieved? Which of the alternatives are more desirable? Less desirable?

Round 3: Further refinements of the first two questionnaires. Have the panel evaluate the assumptions or information they used to arrive at what they consider to be a most probable course of future events or future opportunities.

Each council member will independently respond to the set of questionnaires. The survey coordinator will summarize the results and develop the subsequent questionnaire. Although council members will have an opportunity to examine the questionnaire responses, the respondents are not identified.

- As the result of having participated in a Delphi Probe, the city council members have gained new insights about the city and its future. This is because all council members have provided input and have had opportunity to reflect upon how they formed their opinions. The Delphi Probe is thus a good technique to stimulate the council members to think about future perspectives for the city and also provide a structured activity for the group. (Some teachers have found that a more organized type of activity is needed for the city council during the time when the interest groups are developing their presentations.)

USING BEACON CITY IN THE CLASSROOM

While *Beacon City* can be introduced in a variety of ways, the following procedure has worked very well for most teachers. It is suggested, therefore, that this procedure be employed at least for the first time you use *Beacon City*. During subsequent uses of the game, you might try some other method based on prior experiences or continue with these suggestions.

Introducing the Simulation

This can be accomplished by explaining the procedure to your students in any way that you feel is appropriate or simply, you can read aloud the description presented elsewhere in this manual. You should also stress the following:

- **The objective of the simulation** (e.g., to convince the city council to accept "your proposal").
- **The instructions for the simulation** (these are presented on each role card) Emphasize methodologies; do not recommend specific strategies. Display the simulation materials as you discuss them. As you discuss student worksheets, it helps to project them on an overhead projector or make an enlarged copy on which to demonstrate their intended use.
- **The Data File.** This is an extremely important part of *Beacon City*. You should devote sufficient time to this step to ensure that the students are aware of the kinds and variety of information contained in the Data File. You might wish to make a transparency of the *different* kinds of information and project these on a screen during the discussion.

The amount of detail to be included in your discussion regarding the Data File will, for the most part, be determined by your particular class and the needs, abilities, and past experiences of the students.

• The Role Cards

- For each of the community groups there are three (3) roles. Although each role contains a different perspective, the suggested task and strategies for members of the same group are identical. In order to develop an effective proposal, it is important that the members arrive at a consensus and be supportive of one another.
- At the first group meeting, the members should examine the suggested tasks and strategies and decide how to best proceed. Depending on the group, the members may wish to divide up the tasks or they may wish to examine the materials as a group.
- Distribute the two analysis sheets (Interest Group Handout 1 and Handout 2) to be used by the students in organizing their data and developing their arguments. It is suggested that group members first work independently on these sheets and then combine their information in developing the formal presentation.

- The tasks for the council members are somewhat different. Their first task will be to elect a chairman who will conduct the council meeting. However, they will not be working as a unified group since each has to develop a unique perspective consistent with his/her role profile. Nonetheless, they may wish to interact with each other to become acquainted with one another and discuss common concerns. This may be more effectively accomplished in small groups of two or three. Since the council members will not be developing a proposal, their activities appear to be of a more limited nature. However, it is of utmost importance that they have a firm understanding of the nature of their community — its attributes, needs and problems — in order to respond to the proposals knowledgeably.

- If you find that the council members have extra time, you might suggest that they review the filmstrip to gain further insights. Additionally, you could also engage them in corollary discussion questions or topics (e.g., the council form of municipal government vs. the commission form, and the differences in the types of activities they participate in. It might also be helpful for them to identify the special needs of Beacon City and try to project ways in which these needs could be met. (See the explanation of the Delphi Forecast. It is a good activity for the council.)

- The students should have a clear understanding of their role profile and try to portray that role as realistically as possible.

- The council members have two worksheets (Council Member Handout 1 and Handout 2) to aid them in evaluating the six proposals. They should become familiar with these worksheets prior to the council hearing.

- **Distribute Roles Among Players.** Roles may either be assigned or selected by the students. Encourage them to identify as closely as possible to their role. They should review the "tasks and strategy" section and be sure that they understand the simulation procedures.

- **Filmstrip/Cassette Presentation.** To orient the students to *Beacon City*, show the filmstrip included with the simulation. Note: You will need to follow the script in order to advance the filmstrip as designated. The script follows this section of this guide.

The filmstrip was prepared to help the students gain a better idea of the physical and some of the social conditions that exist in Beacon City. It is the next best thing to actually taking a trip to Beacon City. Simply, it helps to orient the class by giving the students a "feel" for the actual situation and acquainting them with the background and history of Beacon City.

• Hints for Conducting Simulation

- In this simulation the teacher acts as a counselor-consultant-facilitator.
- Encourage each student to actively contribute to the development of the group's proposal and presentation. You might suggest additional data or resource items that they may not have considered.
- Encourage students to explore their own unique personal resources and talents by providing suggestions and hints on more creative ways to utilize the data and present their arguments (e.g., different audio, graphic and visual forms that can be employed in presenting the data — storyboards, mock-up, new overlays, pictures, taped interviews. . .).
- Encourage discussion and debate so that all group members have an opportunity to express their ideas. No one student should dominate or carry the burden of the activities.
- Encourage constructive resolution of conflicts.
- Make sure that the students are thoroughly familiar with the items in the Data File.
- Be sensitive to the kinds of difficulties students might experience. Some students may need guidance in developing their strategies. The format of certain kinds of data (e.g., census tables) may require further clarification.
- As you observe the progress of the simulation, make notes on data usage, strategies, group dynamics, lines of questioning and other significant events that occur. These notes can provide the basis for the development of your debriefing session.
- Encourage the students to be aware of the interplay between their role profile and their own values which they impose on the role.

Encourage the student to use a broad data base in order to develop a more effective presentation. Students should examine the weak points of their argument and be prepared to offer counter-arguments. Students may need assistance in discerning subtleties in the data.

- Encourage students to use the analysis forms. The data that they extract may then be presented in other graphic forms. Suggest that

they use audio or visual displays to create a more interesting and dynamic presentation.

- Have the students sign a Checkout Sheet when borrowing items from the Data File so that the person who has a particular item can be identified quickly. Encourage students to return the materials promptly to their proper location. The Checkout Sheet also provides a record of what information is used by each team. This will be useful for the students, offering clues on how other teams are developing their proposal.
- Since the groups have only ten minutes to make their presentation, suggest that they make some timed "trial runs" to insure that their most important points are made within the allotted time.

• Suggested time Schedule

The following represents a minimum suggested time schedule which could be expanded or reduced as necessary.

Number of Period	Activity Sequence
1	Present overview of game objectives, rules, Data File, roles and role cards. Distribute roles. Showing of filmstrip Questions/discussion
3 or more	*Develop presentation to council Design and prepare graphics
2 or more	Council hearing and selection of proposal.
1	Debriefing session

**Option: An alternative to devoting three or more full class periods for students to develop their presentation is to spread this activity over several days or even two weeks by scheduling ten or fifteen minutes at the end of the class period for work on the simulation. This would give students more time to think about the arguments for their proposals, discuss the issues among themselves and perhaps do additional outside research.*

The number of council voting sessions should not exceed three or four. If you find that an impasse is reached and a majority of votes cannot be obtained for a single proposal, you might remind the students that it is possible for groups to cooperatively offer alternative proposals after the first vote. Or, the class as a whole may develop a proposal which combines aspects of different proposals.

However, you might wish to end the simulation at this point. It would be of equal value to discuss the reasons why no decision could be agreed upon and relate it to problems of decision making in a complex society.

• Extention of the Simulation

Present the information that a statewide vote has recently taken place. Casino gambling is now permitted in one city in the state, Beacon City. This presents an additional factor for students to consider. Have the council members reconsider their decision and recast and defend their vote. Then have the students forecast the changes that will take place and their effects on the community.

• Debriefing

The debriefing session is perhaps one of the most essential components of any simulation. (Be sure that enough time is allotted for this activity.) It provides an opportunity for students 1) to analyze their experience with the simulation, 2) to compare strategies used by each team, 3) to evaluate the council's decision in terms of the evidence presented and the implications for the city's future, and 4) to determine how the process and council's decision reflect real world situations.

Debriefing sessions are by nature open-ended. Your approach to the discussion should be consistent with your teaching style and the needs of your students. The following questions are provided as a framework for your discussion. The order of their treatment is not important; however, experience indicates that, in general, the discussion should proceed from the specifics of the simulation to generalizations about the real world.

- What positive and negative feelings did the students experience as the simulation progressed? Were they satisfied with the tactics used by each team and with the council's decision? Were there any conflicts of interest inherent in the roles?
- What types of strategies were employed by the participants? Have the students evaluate the effectiveness of the persuasion techniques used in the simulation. Were the data more supportive of one proposal at the expense of others? In their presentation did the students take into account the interplay between various factors that operate within a community? For example, how might the character of the city change because of a particular type of development?
- What societal or personal values were asso-

ciated with each proposal? What values prevailed in the council's decision? Was the decision or its associated values more beneficial to the community at large or to particular individuals within the community? (The teacher should not try to impose his or her values but instead try to elicit opinions from the students.) Did the students think that the presentation with the strongest arguments and supportive data prevailed? Was the decision realistic? What considerations did the council members take into account when making their decision? Did different groups use the same data in different ways to support their arguments?

- Did the students feel that the roles, data, proposals, simulation organization and procedures reflected the real world? What impact would the council's decision have on the different population groups (age, economic status, etc.) of Beacon City? What implications does the decision have on the social, economic and political aspects of the city?
- What potential problems might the resultant decision create? (Often a solution to a given problem creates new problems and issues.)

• Post Game Tasks

If you intend to use the simulation again, this is the ideal time for you to conduct your own personal debriefing and to reorganize the materials.

- Compile a list of commonly asked questions and note your responses so that you can anticipate them next time.
- Compile a list of problems that you encountered. Provide suggestions that might be helpful in avoiding future problems.
- Compile a set of preparation and procedural notes that will offer useful reminders for subsequent simulation. For example:
 - Reorder student handouts
 - The materials and instructions most useful to the students
 - The time required for the various activities
 - Physical arrangement of classroom and materials
 - Modifications of the simulation
- Reorganize the materials and check that all items are in their proper location.

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G. Readings

- G-1 Excerpts from Ann Louise Strong: *Open Space for Urban America*, Washington, D.C., Department of Housing and Urban Development, 1965, Chapters I and II.
- G-2 Excerpts from Luben Tonev: "Work, Rest, Recreation: The Vital Milieu," 1970 International Conference of the Commission on Town Planning of the Union Internationale des Architectes, *Aquisition, Conservation, Creation and Design of Open Space for People*, Mildred F. Schmertz (ed.), American Institute of Architects.
- G-3 Excerpts from George T. Marcou: "Open Space for Human Needs," *op. cit.*
- G-4 Excerpts from Organization for Social and Technical Innovation. *Housing Action: A Guide for Doing Something About Housing Problems in Your Community*, Chapter II, Public Housing, Cambridge, Mass., OSTI Press, 1969.
- G-5 Excerpts from Chapter III, *Urban Renewal*, *op. cit.*
- G-6 Excerpts from Chapter V, *Equal Opportunity in Housing*, *op. cit.*
- G-7 Excerpts from: *Condominiums — The New Home Ownership*, Westchester County Department of Planning, July 1974.
- G-8 Excerpts from Charles E. Funnel: "Not Too Far From the Madding Crowd," "Fallen Lady," and "Newport of the Nouveaux Bourgeois," from *By the Beautiful Sea*, New York: Alfred E. Knopf, Inc., 1975.
- G-9 Laurence A. Alexander: "Recycling Downtown," from *Nation's Cities*, December 1974, pp. 14-19.
- G-10 John McPhee: "A Reporter at Large: The Search for Marvin Gardens," *The New Yorker*, September, 1972, pp. 45 +
- G-11 Excerpts from G. Abcarian and M. Palmer: "Metropolis in Crisis: Tensions of Urban Life," Chapter 9, from *Society in Conflict*, New York: Harper & Row, 1974.

H. Council Profiles and Activities

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- H-2 Councilman-at-Large: Abraham Steinmetz
- H-3 Councilman-at-Large: Raymond Squire
- H-4 Representative of First Ward: Roberta Sanders
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- H-6 Representative of Third Ward: Howard Masters
- H-7 Representative of Fourth Ward: Marion Stone

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Public Housing Team:

- I-1 Esther Johnson
- I-2 Rev. Milton Bauer
- I-3 Carolyn Parks

Recreation/Open Space Team:

- I-4 Sandra Perkins
- I-5 Peter Norman
- I-6 Rita J. Keller

Hotel Development Team:

- I-7 Jennifer Landlow
- I-8 Adam Burns
- I-9 Thomas Cann

Amusement Park/Marine World Team:

- I-10 John Appleman
- I-11 Geraldine Foster
- I-12 James O. Winters

Condominium Team:

- I-13 Benjamin Stout
- I-14 Roger Crozier
- I-15 Edith Fergusen

Citizens for Community Development:

- I-16 Susan Wyatt
- I-17 Judith Ehrhart
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Council Member Worksheet 1 — *Analysis of Land Use Variables*

Council Member Worksheet 2 — *Record Keeping Sheet*

BEACON CITY
Filmstrip Script

Filmstrip Frame	
1	BEACH SCENE — SUNRISE In the beginning there was the sun, the sand and the sky. . .
2	BEACH SCENE — GULLS and the waves rolling in on the beach . . .
3	BARRIER ISLAND and the island called Absecon, with its salt marshes, sand dunes and surf.
4	BARRIER ISLAND True, the island was not much different than the many barrier islands which fronted the Jersey coast. But it was close to Philadelphia — only 60 miles away — and this booming city was in the market for a summer home.
5	UNITED STATES HOTEL In the two short years, the speculators purchased large tracts of land on the island, built a railroad across the flat pine barrens of southern New Jersey between Philadelphia and Absecon Island, and erected a hotel. The United States Hotel, which had accommodations for 600 guests and claimed to be the largest hotel in the nation, received the first trainload of visitors on July 1, 1854. The great American resort, Beacon City, had been launched.
6	POPULATION/YEAR CHART From 1854 to 1875, the city grew and prospered at a steady rate. From a level of 25 in 1850 the resident population grew to 687 in 1860, over 1000 in 1870 and over 2000 in 1875. The arrival of President U.S. Grant in 1874 as a guest at the United States Hotel brought widespread attention to the new resort. From 1875 to 1910, it boomed. In 1880, the population topped 5,000; in 1890, 13,000; in 1900, it was 27,000; and by 1910, there were over 46,000 residents in Beacon City.
7	EARLY BEACH SCENE The summer population, of course, was always greater than the permanent population.
8	BEACH SCENE — BATHERS POSING
9	BEACH SCENE — SAND SCULPTURE
10	MARLBOROUGH-BLENHEIM HOTEL Beacon City's approach to life in the early years was extravagant. . .
11	INTERIOR OF HOTEL its architectural style "garish opulence."

12	EARLY BOARDWALK SCENE — STROLLERS From 1852 to 1870, the beach was quite undeveloped. In 1870, the first boardwalk was built. This eight-foot wide portable affair was an immediate success; its patronage grew so rapidly that it had to be rebuilt and expanded many times.
13	EARLY BOARDWALK SCENE — CROWDS By the 1880s, the Boardwalk had become the principal commercial street, the most favorable location for new hotels.
14	WINDSOR HOTEL like the Windsor
15	TRAYMORE HOTEL the Traymore
16	MARLBOROUGH-BLENHEIM HOTEL and the Marlborough-Blenheim
17	FRALINGER'S PHARMACY This was a favorable location also for commercial establishments such as Fralinger's famous pharmacy, the home of saltwater taffy.
18	COVER — HARPERS And then there were the piers. Every few years from 1882 to 1912, a new ocean pier would be built to provide more space for amusements, entertainment and exhibits.
19	ROLLER COASTER, ETC. The revolving Observation Tower, the Loop-the-Loop, the Ocean Tricycle and something called the Epicycloidal Diversion — a sort of multiple Ferris wheel — all attracted their share of the crowd.
20	VILLA ON PIER The owner of the Million Dollar Pier even built this Italian style villa on the pier and gave it the address of No. 1 Atlantic Ocean.
21	RESIDENTIAL STREET Through 1930, the residential population and recreational activity in Beacon City continued to grow.
22	AMUSEMENT AREA, RIDES, CROWDS
23	CONVENTION HALL — FLOOR DISPLAYS From 1900 onward, this growth was supported by the development of a new enterprise in Beacon City — the convention industry. Taking advantage of the off-season availability of hotel rooms, the year-round beauty of the seascape and the attraction of boardwalk amusements, the city courted the trade of the perennial conventioneer.
24	CONVENTION HALL In 1929 the Beacon City Convention Hall was completed. In 1971, Convention Hall was expanded and made even larger.

25	TEACHERS CONVENTION — FLOOR OF HALL Exhibitions by glassware manufacturers, conventions for teachers and school boards, and, of course,
26	MISS AMERICA PAGEANT — FULL STAGE The world famous Miss America pageants have become annual rituals at Beacon City.
27	CROWNING NEW MISS AMERICA
28	POPULATION GRAPH However, 1930 marked the turning point for Beacon City. It stopped growing and began to lose population through outmigration. From a peak of 66,000 in 1930, the population fell to 47,000 in 1970.
29	AIRPORT Changing patterns of recreation and travel brought about by inexpensive and convenient aircraft and automobiles were the cause. With cars and air travel, people discovered that Beacon City was not the only accessible place to vacation.
30	MARLBOROUGH-BLENHEIM HOTEL The city began to lose its glitter. Palatial hotels, once teeming with guests, no longer were booked to capacity. The Marlborough-Blenheim Hotel . . .
31	DENNIS HOTEL The Dennis Hotel. . .
32	CONVENTION HALL While conventions are still a major activity, the city's attractions have changed little through the years.
33	MILLION DOLLAR PIER The Million Dollar Pier, for example, is no match to the "Disneyland" type amusement centers that have sprouted up throughout the country.
34	DETERIORATING HOUSING A majority of the housing was built before 1939. Primarily summer cottages with no heating, they have not aged gracefully.
35	DETERIORATING HOUSING Structures are wearing out. . .
36	ABANDONED/RAZED HOUSING being abandoned and razed.
37	GOOD QUALITY, LOW-COST APARTMENT BUILDING To house the residents who have been displaced — especially the elderly who make up 30% of the population — state and federally financed housing projects have been built. To date, 1,600 low income apartment units have been constructed in the city.

38	NEW HIGH RISE APARTMENT BUILDING But the need has not yet been satisfied. Many hundred individuals and families have made application for apartments in the projects, but there is no room for them.
39	PLAYGROUND Ironically, in this world famous resort city, playground, parks and other recreational facilities for the city's youth are few in number and in poor condition.
40	PLAYGROUND — BASKETBALL
41	MAIN STREET OF BEACON CITY Retail grocery, apparel and other shops are readily available to the city's residents along one main street. However, shopping malls with their discount stores are located in the suburbs on the mainland, and are inaccessible to the majority of residents who lack private automobiles or other means of transportation.
42	BUS Buses are available but they travel limited routes and mostly within the main streets of the city.
43	JITNEY BUS Jitneys — a mini bus holding about 10 passengers — augments the bus system. But again, they are also limited to the commercial strip of town.
44	RAILROAD STATION It is ironic that the city that owes its existence to the railroad finds itself in a position where it lacks adequate transportation facilities for its residents. The railroad station is now hardly used since the major passenger service between Beacon City and the surrounding metropolitan areas was discontinued.

45	AERIAL VIEW — REDEVELOPMENT SITE The Uptown Redevelopment Site offers the city an opportunity to reverse the downward spiral it has been experiencing.
46	REDEVELOPMENT SITE — AERIAL "CLOSE UP" This 56-acre site adjacent to the Boardwalk was cleared several years ago and offered for sale to any developer with a proposal which would meet the approval of the city council.
47	GROUND LEVEL VIEW OF REDEVELOPMENT SITE In a sense, the site represents the under-utilized potential of the entire city.
48	BOARDWALK — NEARLY DESERTED
49	BOARDWALK — PEOPLE The Boardwalk is there. . .
50	BEACH SCENE — SUNSET The sun, the sand and the sky. . .
51	BEACH SCENE — WAVES and the waves rolling in on the beach.
52	LIGHT TOWER Beacon City.

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APPENDIX

Stages of Moral Development

PRECONVENTIONAL LEVEL

At this level the child is responsive to cultural rules and labels of good and bad, right and wrong, but interprets the labels in terms of either the physical or the hedonistic consequences of action (punishment, reward, exchange of favors) or in terms of the physical power of those who enunciate the rules and labels. The level is divided into the following two stages:

STAGE 1

The punishment and obedience orientation. The physical consequences of action determine its goodness or badness regardless of the human meaning or value of these consequences. Avoidance of punishment and unquestioning deference to power are valued in their own right, not in terms of respect for an underlying moral order supported by punishment and authority (the latter being stage 4).

STAGE 2

The instrumental relativist orientation. Right action consists of that which instrumentally satisfies one's own needs and occasionally the needs of others. Human relations are viewed in terms as those of the market place. Elements of fairness, of reciprocity, and of equal sharing are present, but they are always interpreted in a physical, pragmatic way. Reciprocity is a matter of "you scratch my back and I'll scratch yours," not of loyalty, gratitude, or justice.

CONVENTIONAL LEVEL

At this level, maintaining the expectations of the individual's family, group or nation is perceived as valuable in its own right, regardless of immediate and obvious consequences. The attitude is not only one of conformity to personal expectations and social order but of loyalty to it, of actively maintaining, supporting, and justifying the order, and of identifying with the persons or group involved in it. At this level, there are the following two stages.

STAGE 3

The interpersonal concordance of "good boy - nice girl" orientation. Good behavior is that which pleases or helps others and is approved by them. There is much conformity to stereotypical images of what is majority or "natural" behavior. Behavior is frequently judged by intention—"he means well" becomes important for the first time. One earns approval by being "nice."

STAGE 4

The law and order orientation. There is orientation toward authority, fixed rules, and the maintenance of social order. Right behavior consists of doing one's duty, showing respect for authority, and maintaining the given social order for its own sake.

POSTCONVENTIONAL OR PRINCIPLED LEVEL

At this level, there is a clear effort to define moral values and principles which have validity and application apart from the authority of the groups or persons holding these principles and apart from the individual's own identification with these groups. This level again has two stages, which are as follows:

STAGE 5

The social-contract legalistic orientation, generally with utilitarian overtones. Right action tends to be defined in terms of general individual rights and standards which have been critically examined and agreed upon by the whole society. There is a clear awareness of the relativism of personal values and opinions and a corresponding emphasis upon procedural rules for reaching consensus. Aside from what is constitutionally and democratically agreed upon, the right is a matter of personal "values" and "opinion." The result is an emphasis upon the possibility of changing law in terms of rational considerations of social utility (rather than freezing it in terms of stage 4 "law and order"). Outside the legal realm, free agreement and contract is the binding element of obligations.

STAGE 6

The universal ethical principle orientation. Right is defined by the decision of conscience in accord with self-chosen ethical principles appealing to logical comprehensiveness, universality, and consistency. These principles are abstract and ethical (the Golden Rule, the categorical imperative); they are not concrete moral rules like the Ten Commandments. Instead, these are universal principles of justice, of the reciprocity and equality of human rights, and of respect for the dignity of human beings as individual persons.

¹ Lawrence Kohlberg, Stages of moral development as a basis for moral education. In C.M. Beck, B.S. Crittendon, and E.V. Sullivan (Eds.) *Moral education*. New York: Newman Press, 1971, 86-88.